REMARKS

Claims 1-10 are now pending in this application, with claim 1 being the only independent claim. Claims 1-10 have been amended. The amendments to claims 1-10 are merely cosmetic or clarifying in nature. No new matter has been added. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

Claims 1, 3, 6-8 and 10 stand rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,388,151 ("*Kemmner*"). Claims 1-5 and 9 stand rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,375,970 ("*Iwai*"). Lastly, claims 1 and 2 stand rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 6,402,460 ("*Fischer*"). For the following reasons, reconsideration and withdrawal of these rejections are respectfully requested.

The claimed invention relates to a fuel feed unit for a motor vehicle having a fuel pump which is driven by an electric motor, where a rotor of the fuel pump is arranged between two housing parts and the rotor is fastened in a rotationally fixed manner to the shaft of the electric motor (see pg. 1, lines 8-11 of the specification as originally filed).

In accordance with the claimed invention, the fuel feed unit is configured such that the fuel pump is largely prevented from seizing, in particular during dry running (see pg. lines 23-25 of the specification as originally filed). The fuel is prevented from seizing during dry running by providing at least one of the housing parts with an expansion joint (see pg. 1, lines 29-30 of the specification as originally filed).

The expansion joint allows the housing parts to expand in the event of heat input or friction. The change in shape of the housing parts can be absorbed by a corresponding arrangement of the expansion joint or of a plurality of expansion joints. As a result, it becomes possible to keep the housing part away from the mounting of the shaft and from the rotor. Moreover, the gap seal between the housing parts and the rotor can be kept largely constant by

the expansion joint in the event of thermal expansion of the housing parts. As a result, the generation of further friction is kept particularly low, and the fuel pump is largely prevented from seizing. The claimed fuel feed unit can therefore be operated in a dry state and, thus, without fuel for a particularly long period of time without the fuel pump seizing (see pg. 1, line 32 to pg. 2, line 4 of the specification as originally filed).

Independent claim 1 recites "at least one of the first and second housing parts includes an expansion joint". Each of the cited references fails to teach or suggest a fuel pump unit that includes this claimed feature.

Kemmner relates to "a unit for delivering fuel from a fuel tank to the internal combustion engine of a motor vehicle ... which has a feed pump arranged in a fuel tank and [is] constructed as a flow pump with a substantially circular-cylindrical impeller rotating in a circular-cylindrical pump chamber" (see col. 1, lines 8-15). *Kemmner* (col. 1, lines 37-44) describes "a unit in which an end wall of the pump chamber is penetrated in the region of a pressure opening by a bore hole which connects the pump chamber with a region of the system with a low pressure, and the bore hole ... is located in a sealing surface which defines a delivery duct in a radial direction with reference to an axis of rotation of the impeller". *Kemmner* (col. 1, lines 46-48) explains that there are no movable structural members which are subject to wear during operation of the unit.

The arrangement of *Kemmner* is provided to overcome the problems associated with conventional feed pumps that typically require a valve flap which is costly to assembly, and which also include the risk that an open valve flap will scrape against the impeller of the feed pump when gas is conveyed thereby causing unwanted noise and failure of the pump to occur (see col. 2, lines 24-28). There is nothing in *Kemmner*, however, regarding the construction associated with the fuel feed unit of independent claim 1.

Kemmner (col. 2, lines 26-29; FIG. 2) further teaches that "[o]ne end 26 of the armature shaft 24 penetrates a dividing wall 28 which divides a space 30 containing the electric motor 20 from a feed pump 32". *Kemmner* (col. 2, lines 26-29; FIG. 2) additionally teaches that "[t]he impeller 34 is arranged in a pump chamber 36 which is defined toward the drive motor 20 by the dividing wall 28 on one side and on the other side by a cover 38 in which the suction sleeve 13 is located". *Kemmner* (col. 3, lines 35-37) explains that "the two walls 28 and 38 defining the pump chamber 36 in the axial direction of the motor 34 are produced from plastic". However apart from describing the materials from which the two walls are manufactured, there is no teaching or suggestion that any one of these walls includes an expansion joint. Thus, *Kemmner* fails to teach or suggest "at least one of the first and second housing parts includes an expansion joint", as expressly recited in independent claim 1.

The "two joints" identified by the Examiner do not expand in the manner asserted. Were these joints to expand, the shaft in the illustrated fuel pump of *Kemmner* would become "off-center" during rotation of the electric motor, since the walls of the joints are rigid and hold the shaft in place. Moreover, there is nothing in *Kemmner* with respect to alleviating the problems associated with friction were the disclosed fuel pump of *Kemmner* to run dry. *Kemmner* therefore fails to teach or suggest "at least one of the first and second housing parts includes an expansion joint", as recited in independent claim 1.

Iwai relates to " a circumferential flow type liquid pump used as a fuel pump for pumping a liquid-phase fuel such as gasoline from the fuel tank into an internal combustion engine of a vehicle" (see col. 1, lines 6-9 of *Iwai*). According to *Iwai* (col. 3, lines 55-61; FIG. 1) "[a] pump casing assembly 100 [having] an elongated arcuate pump flow path 5 ... made up of recesses 1B and 2B formed in the pump base 1 and the pump cover 2". A discharge outlet 1A is provided on the side of the pump base 1, and a suction inlet 2A on the side of the pump cover 2. In the pump

cover 2, a plurality of gas venting holes 2D, 2E and 2F are formed in the impeller sliding surface 2H along the pump flow path 5 and are communicated with the outside of the pump. *Iwai* makes absolutely no mention of the materials from which the pump base 1 is manufactured. Therefore, the skilled person would have no reason to conclude that the disclosed pump base of *Iwai* includes expansion joints. *Iwai* thus fails to teach or suggest "at least one of the first and second housing parts includes an expansion joint", as recited in independent claim 1.

Fischer relates to "an abrasion wear resistant fuel pump for a vehicle" (see col. 1, lines 5-6 of *Fischer*). According to *Fischer* (col. 1, lines 1, 57-60) "the abrasion wear resistant fuel pump uses a material composition that improves the abrasive wear characteristics of a plastic material". *Fischer* (col. 1, lines 1, 57-60) additionally explains "that the abrasion wear resistant fuel pump improves performance and durability of the fuel pump due to improved flow channel, port geometry and surface smoothness". *Fischer* thus teaches a fuel pump in which the components of the pump are made from rigid, wear resistant materials. There is no teaching or suggestion that any of the components in this pump would include an expansion joint, as expressly required by applicants' independent claim 1. *Fischer* likewise fails to teach or suggest "at least one of the first and second housing parts includes an expansion joint", as expressly recited in independent claim 1.

There are simply no components in each of the fuel pumps disclosed in *Kemmner, Iwai* and/or *Fischer* that provide the expansion joint of independent claim 1. The claimed invention, is configured such that the fuel pump is largely prevented from seizing, in particular during dry running (see pg. lines 23-25 of the specification as originally filed). The fuel pump is prevented from seizing during dry running by providing at least one of the housing parts with an expansion joint (see pg. 1, lines 29-30 of the specification as originally filed). This expansion joint allows the housing part to expand in the event of heat or friction. There is nothing whatsoever in

Kemmner, *Iwai* or *Fischer* with respect to an expansion joint that provides such an advantageous feature.

Kemmner, *Iwai* and *Fischer*, individually or in combination, thus fail to teach or suggest applicants' claimed fuel feed unit. Applicants accordingly assert that independent claim 1 is therefore patentably distinct over *Kemmner*, *Iwai* and *Fischer*.

In view of the foregoing, reconsideration and withdrawal of all the rejections under 35 U.S.C. §102(b) are in order, and a notice to that effect is requested.

In view of the patentability of independent claim 1, dependent claims 2-10 are also patentable over the prior art for the reasons set forth above, as well as for the additional recitations contained therein.

Based on the foregoing remarks, this application is in condition for allowance. Early passage of this case to issue is respectfully requested.

Should the Examiner have any comments, questions, suggestions, or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
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